



COMPONENTS CLEANING FACILITY FACT SHEET

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
KENNEDY SPACE CENTER
BREVARD COUNTY, FLORIDA

Location

The Component Cleaning Facility (CCF), which in this case encompasses an area located adjacent to and north of the Crawlerway, between the Vehicle Assembly Building (VAB) and launch pads.

History

CCF is a NASA-operated facility that originally was used for converting liquid nitrogen to nitrogen gas, which was then piped to the launch pads. In 1962, a components refurbishment (cleaning) facility for hardware and an analytical chemical laboratory were established at CCF. The laboratory and components cleaning operations occur in Building K7-516, and the field cleaning operations occur in Building K7-563. Also, at CCF are two, 90-day hazardous waste staging area.

An environmental assessment study conducted at CCF show that operations at this site have resulted in releases of chemicals to the environment.

Investigations from 1986-1992 sampled surface and sediment from the north and south drainage ditches. Other samples were also taken from waste water discharges. When analyzed, these samples showed detections of metals, volatile organic compounds (VOCs) and trichloroethene (TCE), the primary degreaser used at the Kennedy Space Center (KSC) until the early 1970's.

From 1992-1999 a RCRA Facility Investigation was conducted. During this investigation samples were taken of surface and subsurface soil, sediment, surface water, and groundwater. This assessment proved that TCE and Vinyl Chloride, its daughter product, would result in an unacceptable increased human health risk if the groundwater were used as a source of drinking water.

From 1999-2001 a Corrective Measure Study was completed that evaluated cleanup alternatives. Sampling was conducted in three areas to locate dense non-aqueous phase liquid (DNAPL). Two areas were found to have freon DNAPL and one area contained TCE DNAPL.

Treatment

To remove groundwater and surface water contamination at CCF an Air Sparge/Soil Vapor Extraction (AS/SVE) system and groundwater pump and treat system has been installed.

Air Sparge/Soil Vapor Extraction

The AS/SVE system consists of air sparge wells that inject air into the groundwater and SVE wells that remove air from above the water table. The injected air strips the VOCs from the groundwater and carries them up to the SVE system, which removes them from the air. This system has been installed over a largely paved area, which allows the SVE to easily capture the injected air.

This Fact Sheet was written and produced by the NASA/KSC Environmental Program Office. All comments or questions can be made by calling (321) 867-8402 or by writing to the following address:

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Groundwater Pump and Treat

A groundwater pump and treat system has been installed north of the railroad tracks. It consists of five groundwater recovery wells and pumps 50 gallons per minute. In this process the groundwater is pumped to an air stripping tower where it is then treated and discharged to an exfiltration gallery (irrigation system).

Excavation

The sediment in the concrete-lined ditch south of CCF will be removed as a part of the Corrective Measures Study (CMS). Also, the sediment in the North Ditch with concentrations above the site specific cleanup level will be removed as a part of the CMS.

The area at CCF where TCE is in free product form may be excavated. First a de-watering system will lower the water table and then a temporary SVE system will reduce the amount of hazardous soil that

would need to be excavated. A decision will be made regarding the performance and/or success of the SVE system. If necessary, the remaining soil and free product will be excavated. The non-hazardous soil will be returned to the excavation for later treatment using the AS/SVE.

Conclusion

The AS/SVE system will reduce leaching and along with the pump and treat system, will address any groundwater contamination. This system is believed to be the most cost effective to remediate/control groundwater in a reasonable amount of time. However, if this system performs at a slower rate than expected a bioenhancing amendment will be investigated.

To assure that the groundwater is not being used for drinking water an institutional control for this facility has been implemented.

